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Soil and Water Conservation News

United States Department of Agriculture
Soil Conservation Service

CRP Plantings to Benefit Wildlife

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Comments:
From the SCS Chief

Conserving Wildlife Habitat

Wildlife habitat has a place in the conservation plan of every farm and ranch. From my ranching experience, I know there's real pleasure in seeing your operation work in harmony with nature. The dividends from that stewardship come in hard dollars, too. A growing number of farmers and ranchers, like me, lease their land for hunting and fishing. These recreation uses pump millions of dollars into the rural economy each year.

The Soil Conservation Service has always provided technical help to landowners who want to conserve wildlife habitat as well as soil and water. SCS can help farmers and ranchers choose combinations of conservation practices that provide healthy and diverse plant and animal communities.

Some of the most widely used practices include conservation tillage, stripcropping, grassed waterways, terraces, field windbreaks and borders, cover crops, and pasture management. Ranchers can improve conditions for wildlife as well as livestock by controlling brush, seeding range, and controlling the timing and intensity of grazing. For woodland operators there are management and harvesting options that benefit wildlife.

Under the conservation provisions of the Food Security Act of 1985 (FSA), SCS is working with more landowners than ever before to develop farm and ranch plans that reduce erosion and promote wildlife habitat. The Conservation Reserve Program (CRP) will put more than 40 million acres of our most highly erodible soil under permanent plant cover—a real boon to wildlife. The CRP also allows practices specifically designed to provide food plots, cover, and shallow water areas for wildlife.

Wetlands provide important habitat for many kinds of fish and wildlife. They support the food chain for freshwater and marine fisheries as well as many bird and animal species. The "swampbuster" provision of the FSA will discourage the conversion of wetlands for agricultural production.

In addition, SCS has assisted farmers and ranchers to build livestock watering ponds and other small water impoundments. These ponds provide valuable wildlife habitat, provide opportunities for fishing, and add beauty to many rural landscapes.

I encourage all producers to look for ways that wildlife habitat can complement their operations. Let's be ever mindful that the health of our land, water, and wildlife and the health of our economy go hand in hand.

Cover: Plantings of grasses, trees, and shrubs under the Conservation Reserve Program benefit elk and other wildlife. (Photo by Ron Nichols, photographer, SCS, Washington, D.C.)

Richard E. Lyng
Secretary of Agriculture

Wilson Scaling, Chief
Soil Conservation Service

All programs of the U.S. Department of Agriculture are available to everyone without regard to race, color, national origin, religion, sex, age, marital status, or handicap.

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Where the Antelope Roam, Again

In an instant, they sprang from the stock trailer and flashed across the plain, back to a range they hadn't roamed in years. The pronghorn had come home.

Once native to most of California, the pronghorn—commonly called antelope—because of overhunting and loss of habitat, had been absent from this central California region for more than 40 years. Now they are back, returned to their historic range in San Luis Obispo and Kern Counties through the efforts of the State Department of Fish and Game, the Soil Conservation Service, and a number of local landowners.

SCS field office employees in Paso Robles have been working with area farmers and ranchers to identify highly erodible land that could be entered into the Conservation Reserve Program (CRP) of the Food Security Act of 1985. Land enrolled in the CRP must be planted to grasses, trees, or brush, creating excellent wildlife habitat. Fewer people and less traffic on the approximately 40,000 CRP acres taken out of production make it especially suitable habitat for the skittish pronghorn.

The fish and game department had counted more than 7,000 pronghorn in four northern California counties and wanted to move some of them south to control their population. Familiar with how SCS works closely with individual farmers and ranchers, the wildlife agency worked through SCS to contact landowners and operators to see if they were interested in bringing the pronghorn back.

"The response was overwhelming," said Don Rees, SCS range conservationist in Paso Robles. "There were at least 20 people who were very interested, and no one raised any objections." Three landowners contributed $3,000 each to cover most of the cost of relocating the animals to their former territory.

More than 125 pronghorn in Modoc County were gathered into 20 stock trailers and trucked from northern to central California in late February 1987.

One group of 37 animals was released on the Carrizo Plain in southeastern San Luis Obispo County. Another group of 37 was set free in the San Juan Creek area of the east-central part of the county. A third group, numbering 51 animals, was released on the Tejon Ranch in southern Kern County.

Whether the animals will survive reintroduction to their historic range in central California depends upon the continued availability of suitable habitat and protection from illegal hunting.

So far, said Rees, the antelope are doing fine, and with the birth of a few kids the herd has even begun to grow a little.

Herb Nesmith,
public affairs specialist, SCS, Davis, Calif.

Photo by Ron Nichols, photographer, SCS, Washington, D.C.

Pronghorn antelope are returning to parts of central California. Land enrolled in the Conservation Reserve Program of the Food Security Act of 1985 provides excellent habitat for the antelope.

Trees to Grow Under CRP

"Trees dramatically reduce soil erosion, improve water quality, benefit wildlife, enhance aesthetics, and provide wood products and income in the future," said the administrators of four U.S. Department of Agriculture (USDA) agencies in a joint memorandum this year to their personnel working with landowners. "Where suitable, we need to encourage participants to plant trees," said the agency heads.

Currently, about 1 out of every 20 Conservation Reserve Program (CRP) acres is being planted to trees. USDA is seeking, to the extent practicable, to raise that to 1 out of every 8 acres—the amount specified in the Food Security Act of 1985.

The goal of the CRP is to take 40-45 million acres of highly erodible cropland out of production and put it into permanent vegetative cover, such as grass or trees, for a minimum of 10 years. The program is designed to significantly reduce cropland erosion as well as improve water quality, enhance wildlife, and increase timber production.

"In view of the benefits derived from tree planting and the goal established for USDA, agency personnel at all levels should emphasize tree planting under the CRP in their contacts with landowners and make the appropriate referrals to State forestry agencies for the development of tree planting plans," said the four administrators.

Signing the memorandum were Milton Hertz, administrator of the Agricultural Stabilization and Conservation Service (ASCS); Myron D. Johnsrud, administrator of the Extension Service (ES); F. Dale Robertson, chief of the Forest Service (FS); and Wilson Scaling, chief of the Soil Conservation Service.

As of the fifth signup last July, nearly 1.3 million acres had been accepted into the CRP for tree planting. In total, nearly 23 million acres have been accepted into the program. The next signup will be February 1-19.

"There's a lot of potential for tree planting in most parts of the country," said Terry Johnson, SCS national forester in Washington, D.C.

The number of acres planted in trees under the Conservation Reserve Program is expected to grow.

"And there's a lot of things conservation districts can do ... and are doing," said Keith Ticknor, SCS forester at the National Technical Center in Lincoln, Nebr.

"One reason people say they don't plant trees is because seedlings cost more than grass seed," Ticknor said. "Some districts are providing additional incentives by providing additional cost sharing, another 25 percent or so.

"Conservation districts could follow up with landowners whose acreage has been accepted into the CRP and encourage them to plant trees," continued Ticknor. "Personal contact is really the best way. This is a good job to recruit volunteers to carry out."

Nationwide, 39 States have tree planting acreage in the CRP.

Georgia, which has been the leading State in tree planting for some 30 years, leads all States, with 341,000 acres accepted into the CRP for trees.

The other top States are Mississippi (264,000), Alabama (185,000), South Carolina (141,000), Florida (66,000), Arkansas (59,000), North Carolina (45,000), Minnesota (29,000), Louisiana (22,000), Wisconsin (19,000), Virginia (16,000), and Tennessee (14,000).

"In Georgia, cooperative efforts from all forestry and associated agencies and organizations have played an important role in our successful reforestation campaign," said John Mixon, director of the Georgia Forestry Commission.

County reforestation committees were established in Georgia in 1983. People from many different agencies, including ASCS, SCS, and ES; State and Federal foresters; members of the forestry industry; consulting foresters; private landowners; and community leaders have volunteered to work on these local committees.

"The CRP definitely came at an opportune time to reinforce Georgia's reforestation efforts," Mixon said.

Alabama, South Carolina, and Mississippi also have forestry productivity committees that have set reforestation goals in each county with industry, Federal, and State participation.

"Committee members note where tree planting is needed, and let each other know," said Jim McClinton, former forester at the SCS National Technical Center in Fort Worth, Tex. "Someone usually knows the owner and is able to make that personal contact that's so important."

Many conservation districts have long loaned tree planting equipment to landowners. Mississippi has taken this a step further, with a goal of making a tree planting machine available in every county. In a further cooperative effort, districts have been able to store the equipment in many State forestry garages. In addition to the tree planters, some districts are also buying hand tree planting equipment which they will loan free to landowners.

The USDA effort to encourage landowners to grow more trees on land accepted into the CRP, combined with the tree planting efforts of conservation districts and local reforestation committees, should help to increase the number of trees planted nationwide. More trees will provide more protection of soil and water resources, benefit wildlife, and provide wood products and income in the future.

Diana Morse,
public affairs specialist, Public Information Division, SCS, Washington, D.C.

A California Fish Story

The Siskiyou Resource Conservation District (RCD) in northern California has a good fish story to tell—no brag, just fact.

Loss of valuable fish habitat in the Klamath River Watershed had become a major concern in recent years for environmental groups and commercial fishing operators. In response, the California Legislature established the North Coast Cooperative Salmon and Steelhead Restoration Project grants program.

With money from this program, the Siskiyou RCD, in cooperation with the California Department of Fish and Game and the Soil Conservation Service, was able to renovate over a half mile of Shackleford Creek, a tributary that once had been extensively used by spawning salmon and steelhead.

Over the years, erosion along the creek had removed much of the streambank vegetation and caused the stream channel to break off into many small, shallow, impassable streams. In places, the stream meandered across an area about 600 feet wide. Streambank vegetation, which provides shade and cover, could not establish itself because of the changing path of the water. The constant shifting of the channel had a devastating effect on nesting salmon and steelhead. Many young fry were left high and dry and unable to return to the main river.

With the grant of $97,000 that it received from the salmon and steelhead restoration project, the RCD contracted for rebuilding streambanks along Shackleford Creek and stabilizing them with rock riprap to confine the channel to an 80-foot bottom width. Willow shoots were planted into the rock-lined streambanks to hasten the establishment of cover.

Department of Fish and Game studies in Shackleford Creek show the fish population to be three times higher along the treated areas than along untreated areas.

The Siskiyou RCD is now cooperating with the Department of Fish and Game in managing a series of fish rearing ponds for chinook salmon. The RCD is also working on a project to improve spawning habitat in Shackleford Creek with small instream structures to create riffles and pools.

Controlling streambank erosion and sedimentation along Shackleford Creek is improving habitat for salmon and steelhead and reducing flooding and flood damage to bordering pastures and hayfields.

Robert A. Bartholomew,
district conservationist, SCS, Yreka, Calif.

Farm Bill Slide Show Available

"Stay Eligible For USDA Programs" is an 8-minute slide show and videotape released by the U.S. Department of Agriculture's Information and Education Task Force on the conservation provisions of the 1985 Farm Bill. Lynn Betts, Soil Conservation Service public affairs specialist in Des Moines, Iowa, produced both the slide show and video.

The productions provide information on determining highly erodible land and a five-step approach to staying eligible for USDA farm programs. Copies have been distributed to Food and Agriculture Council representatives in each State and to State offices of the Soil Conservation Service.

Mississippi Farmers Value Wetlands

Wetlands help to prevent soil erosion and recharge groundwater. The Johnsons, Mississippi Delta farmers, maintain more than 200 acres of wetlands for recreation and conservation.

Photos on pp. 6-8 by Chuck Jepsen, public affairs specialist, SCS, Jackson, Miss.

Some landowners look at a wetland and see a useless, nonproductive piece of property. Others see beauty, recreation, and hunting opportunities, a natural water purification and filtration system, or an aid to irrigation.

Seymour and Kay Johnson, brothers and major farmers in the fertile Mississippi Delta, grow cotton, soybeans, rice, wheat, and milo and raise a few cattle. The Johnsons are maintaining more than 200 acres of wetlands on their Indianola property for several reasons.

For one thing, despite its lushness, the Delta area—in western Mississippi along the Mississippi River—has seen a drop in the water level. Seymour Johnson notes that the Sunflower River has gotten low enough sometimes that springs are visible.

Wetlands help restore the water level of rivers by recharging groundwater. Water collects in a wetland rather than running off, and percolates down through the soil layers. Eventually, it may emerge in a spring or run underground to a river. Water standing in wetlands traps pollutants such as fertilizers and pesticides and prevents them from entering other water sources. Wetlands also provide habitat for waterfowl and other wildlife.

Under the "swampbuster" provision of the Food Security Act of 1985, a person who converts wetlands to cropland for the production of agricultural commodities after December 23, 1985, will lose eligibility for certain USDA program benefits, such as support payments, crop insurance, and FmHA loans. In the past, the Government has inadvertently encouraged wetlands destruction by promoting maximum production of land through farm subsidies. The FSA addresses that problem, among others, by removing incentives to convert wetlands for crop production.

Soil conservationists with the Soil Conservation Service are helping landowners determine if they have wetlands. The determination is based on two factors: the soil must be hydric (covered with standing water or saturated for most of the growing season) and it must be capable of supporting hydrophytic (water-loving) plants. In the Mississippi Delta, according to James Johnson, SCS area conservationist in

The Johnsons are maintaining more than 200 acres of wetlands on their Indianola property for several reasons.

Greenwood, wetlands usually can be spotted as clumps of trees—generally bottomland hardwood timber.

A watcher as well as a hunter of birds, Seymour Johnson ticks off the species that have nested or stopped on his property: wood ducks, mallards, bald pates, blue-winged teals, doves, phalaropes, cormorants, pelicans, among many others. He has reached over 800 on his life list, aided by trips to Europe, Africa, and Asia. The Johnson farm is located on the Mississippi Flyway, one of four across the United States followed by birds migrating to and from Canada and the northern States.

To enhance irrigation, the Johnsons have added a series of dams and two floodgates to their fields.

Kay Johnson, the computer expert, deals with the farm management while Seymour handles the business side.

Seymour Johnson says, "I think there's some merit in the (swampbuster) law ... we've used up too much wetland. We need to retain more lakes."

Seymour Johnson calls a visitor's attention to a map on the office wall. It's of Sweden, land of lakes and pine trees. Johnson points to the area in the southern part where their grandfather owned property. He divided the land among his children, and one of the grandchildren still farms there. A family heritage has clearly exerted its pull in the new land.

Rolling Fork, Miss., farmer Dunbar Lee believes that the wetlands provision "should be stricter, if anything. A lot of land has been drained that shouldn't have been. I'd like to see more land go back to wetlands."

Water-loving plants and trees thrive in this wetland on the Johnson farm in Indianola, Miss. Nesting boxes like this one encourage wood ducks to settle on the property.

Lee farms close to 1,000 acres of cotton, soybeans, wheat, and milo. He has put some land back into wetland that he had cleared to meet the insurance company's requirements for backing a loan.

Lee, an Issaquena Soil Conservation District commissioner, has served 32 years as County Superintendent of Education for Issaquena County.

"Most farmers could develop something like what I have done without too much expense," he says.

Lee points out that farmers can receive additional income by leasing wetlands for hunting. Each year he floods a 20-acre area for hunting. But, so much land in the Delta has been drained already that he has noticed a decrease in the number of ducks. So, like many other landowners, Lee has applied practices to encourage wildlife. He belongs to a local hunting club that pumps water into a generally dry natural lake bed to create a 160-acre rest area for waterfowl. And, he plants seed crops such as millet and soybeans for ducks.

Vivian Rodgers, a Sharkey County farmer, has reached some of the same conclusions as Lee. "We've destroyed too many wetlands."

Rodgers, who serves as a Sharkey County Soil Conservation District commissioner, grows cotton, soybeans, and milo on 4,500 acres. She inherited the land from her father, and the management of it when her husband died. Her son Drick, who manages the farm, received the Goodyear Conservation Award for Sharkey and Issaquena Counties in 1985. He and his two assistants, Bobby Sandifer and Larry Jenkins, were also recognized as conservation farmers for 1985 by the Sharkey County Conservation District.

Mississippi has nearly 3 million acres of wetlands, but 10 percent is estimated to have medium or high potential for development as cropland. The FSA will help to protect these wetlands.

A 100-acre swamp on the Rodgers' farm, aided by a water-control weir, hosts great blue herons, ducks, turtles, bullfrogs, and other wildlife. A nearby forested wetland helps to stabilize water flow.

Vivian Rodgers' respect for conservation is manifest in her restoration of an old wholesale grocery warehouse as her farm headquarters. The building retains its deep-roofed front porch and weathered shingles. Inside, exposed brick has been left at either end of the large room that serves as an office and reception area. Massive, solid-wood doors from her family's former house have been hinged as folding screens to divide the different work areas.

Mississippi has nearly 3 million acres of wetlands, but 10 percent is estimated to have medium or high potential for development as cropland. The FSA will help to protect these wetlands.

Much of Mississippi's economic value lies in its land. And, fortunately, its farmers see the need for conservation. More than 13.5 million acres are already covered by conservation plans.

Recognizing that many of the State's farmers cannot afford to install conservation practices, the State legislature has passed a law to establish a cost-sharing program for conservation. The State originated a Hold Our Topsoil (HOT) campaign to increase public awareness of soil conservation, and the promotion has had extensive media cooperation.

Through a combination of education and assistance, Mississippi farmers are facing the realities of the need for conservation practices. Seymour Johnson, Dunbar Lee, and Vivian Rodgers are all successful farmers and practical individuals. They are just three of the many who have chosen to maintain wetlands over the years because they could see the benefits both to themselves and to the land.

Leslie Wilder,
public affairs specialist, SCS, Washington, D.C.

Dunbar Lee, left, an Issaquena County, Miss., farmer, and Ike Presley, SCS district conservationist in Rolling Fork, Miss., discuss aerial map of Lee's farm. Lee, who grows cotton, soybeans, wheat, and milo, maintains wetlands for hunting and a 160-acre rest area for waterfowl.

The Wild Side Of CRP

The Ashley ranch in the dryland wheat country of eastern Oregon is going wild. The reason is a hunting preserve the owners are developing on cropland set aside under the Conservation Reserve Program (CRP) of the U.S. Department of Agriculture (USDA).

Farmers and ranchers are not allowed to grow crops or graze cattle on CRP land. They can, however, grow crops for wildlife food, hunt, and lease hunting rights on CRP acreages. Under a 10-year CRP contract, ranch owners Bob Ashley, Fred Ashley II, and Fred Ashley III have planted 286 acres of their 1,200-acre cattle and grain ranch to perennial grasses, shrubs, and trees. They are developing a hunting preserve on this land.

The CRP plant cover protects the soil from water and wind erosion and attracts wildlife with food and cover. The Ashleys are supplementing their income with revenues from hunting, fishing, and other recreational uses of the ranch.

The Ashleys have been developing their hunting enterprise since 1985 and have named it the White River Hunting Preserve for its location on the White River, a tributary of the Deschutes River. With technical assistance from USDA's Soil Conservation Service, they have planted 71 acres to intermediate wheatgrass and alfalfa. They have also planted windbreaks and left strips of annual grain and perennial grass uncut in adjacent fields.

In the spring of 1987, they added more than a mile of caragana, honeysuckle, willow, and hybrid poplar plantings to a planting of poplars made in 1984 for wind protection. Several thousand additional feet of multiple species windbreaks are planned for the next 2 to 3 years.

Flood-irrigation ditches are being reactivated so water is readily available in the sandy soil for the new plants, as well as for the wildlife. When the Ashleys were irrigating crops, it cost them $15,000 a year in pumping costs, plus the services of three hired hands, to irrigate with a wheel line system. Now they are able to meet the needs of the less demanding wildlife habitat by flood irrigating with the help of one hired hand.

The new plantings and water sources are increasing the amount and diversity of wildlife habitat, which has already attracted many deer, upland birds, and waterfowl. Chukars, pheasants, and quail are being purchased and stocked for fee hunting.

Since much of the area is flat, it is easily accessible to hunters. Some cross fences are being dismantled, but boundary fences will be maintained. Gates are all open, and several walkover stiles are planned. People are also coming to the ranch to fish and camp. The Ashleys are developing a 28-acre campground that will eventually have 60 camp sites, a store, restrooms, and showers.

The farmers and ranchers in Wasco County have enrolled nearly 59,000 acres in the CRP, which is 25 percent of the county's eligible cropland, the maximum allowed. The Ashley's hunting preserve is the only one of its kind in the county, but other landowners are planning similar projects on CRP acreages nearby. Their plans call for planting a variety of grasses, shrubs, and trees and developing shallow water areas that should further increase the abundance and diversity of wildlife habitat.

The CRP is designed to conserve soil and reduce farm surpluses by retiring highly erodible land from crop production. CRP contracts require participating farmers to maintain or establish and maintain a perennial cover, control noxious weeds, exclude livestock, and refrain from harvest for 10 years. In return, USDA provides the farmers with assistance in planting the new cover and annual payments for each acre accepted into the program.

Windbreaks of hybrid poplar trees along fields planted to perennial grass and alfalfa under the Conservation Reserve Program of the Food Security Act of 1985 provide diverse habitat for wildlife on the Ashley ranch in Wasco County, Oreg.

The Ashleys have found that the program provides them with an opportunity to develop previously untapped resources. Just 2 years ago, commodity prices dropped so far behind rising irrigation pumping costs that the ranch began operating at a loss. But now, with less of the ranch devoted to crops and more of it to wildlife habitat, their operation is financially solvent again.

Mark Amara,
soil conservationist, SCS, The Dalles, Oreg.

Rob Tracey,
district conservationist, SCS, The Dalles, Oreg.

Judges Take Their Places

Over 900 contestants from 33 States competed at the 36th Annual National Land, Pasture, and Range Judging Contest held near Oklahoma City, Okla., May 6-7.

The contest was divided into three events: land judging, pasture and range judging, and homesite evaluation. Each event had three divisions: 4-H and Future Farmers of America (FFA), competing as both teams and individuals, and adults. Contestants evaluated topsoil, subsoil, slopes, and other soil characteristics and recommended treatment to improve the land's adaptability for certain uses.

National Champion Trophies were presented to the Hobart, Okla., FFA Chapter and the Gilmer, W. Va., 4-H Club in the land judging category. In the pasture and range division, the Apache, Okla., FFA team and the Collingsworth, Tex., 4-H Club took top honors. The Royal Valley FFA team from Hoyt, Kans., and the Hawkins County, Tenn., 4-H Club won the homesite division.

Top individual winners in the land judging division were: Jerry Sherwin, Cuba City, Wis., adult division; Mike Meats, Burlington, Kans., FFA division; and Doug Pason, French Creek, W. Va., 4-H winner. Pasture and range division winners were: Harvey Johnson, Hutto, Tex., adult division; Jerry Kiefer, Apache, Okla., FFA; and Shawn Coleman, Shamrock, Tex., 4-H. The homesite division was won by Tom Walton, Powhatan, Va., adult division; Mike Meats, Burlington, Kans., FFA; and Richard McGinnis, Morresburg, Tenn., 4-H.

Many agencies and organizations helped with the contest including the U.S. Department of Agriculture's Cooperative

In photo at left, land judging contestants take turns evaluating soil layers. At right, a land judging contestant estimates percent of slope, and in photo at far right, a contestant completes score card.

Extension Service, Farmers Home Administration, and Soil Conservation Service; the U.S. Department of the Interior's Bureau of Indian Affairs; Oklahoma State University; and Oklahoma Conservation Commission. Principal sponsors were the Farm Credit Services, Oklahoma Association of Conservation Districts, Oklahoma City Chamber of Commerce, Farm Bureau, Farmers Union, and Oklahoma Sirloin Club.

This year's special honoree was Monte Reese who has been involved with the contest for many years. Reese helped with the contest as an employee of a radio station and later as an employee of the Farm Credit Services, one of the sponsors.

F. Dwain Phillips,
public affairs specialist, SCS, Stillwater, Okla.

Forbs Conserve Texas Rangelands

Called weeds by some people, forbs are a valued part of native prairie in Texas. They add variety to the diets of livestock and wild game and add beauty with their color and texture.

Texas rangelands cover almost 100 million acres, 60 percent of the State. Poor rangeland management over the years has allowed less stable and less palatable plants to take over, replacing the forbs needed by sheep, goats, and large game animals, such as white-tailed deer.

The Soil Conservation Service plant materials program in Texas, in cooperation with soil and water conservation districts and the Texas Parks and Wildlife Department, has made the collection, evaluation, and release of forbs top priority.

In 1978, the plant materials center (PMC) released 'Aztec' maximilian sunflower. This good quality native forb is a perennial sunflower that produces heavy rhizomatous rootstocks and tall slender columns of brilliant yellow flowers in early to late October. 'Aztec' is suitable for many uses. It can be used in rangeland seeding mixtures for livestock and large game animals, planted in a solid stand for use by game and songbirds, or used in landscape plantings.

In 1983, 'Sabine' Illinois bundleflower, a warm season native perennial legume, was released. 'Sabine' is not only a good forage plant early in the growing season, but also an excellent seed-producing plant for game birds. Its drought hardiness makes it an excellent plant for use in revegetating surface-mined land.

In 1985, two more forbs were released. 'Eldorado' engelmanndaisy is a high quality, nutritious native forb used by livestock and large game animals. Engelmanndaisy is one of the native prairie plants that has been eliminated by poorly managed grazing, but, if managed properly, can maintain itself and add valuable food and diversity to rangeland. 'Eldorado', with its brilliant yellow flowers in spring and fall, is an excellent landscape plant.

'Comanche' partridge pea, the second forb released by the PMC in 1985, is not used as forage, but as a cover crop and wildlife food. 'Comanche' is a native warm-season annual legume that vigorously reseeds itself and can be used in cropping rotations and to provide fast growing cover for areas reseeded to permanent grasses. Most recently, 'Comanche' has gained a new use in rose culture. It is recommended in rotation with roses to help prevent the buildup of nematodes.

'Plateau' awnless bushsunflower was released for commercial production in 1987. Its primary area of adaption is the Edwards Plateau Land Resource Area of Texas. This area's agriculture depends heavily on sheep, goats, and white-tailed deer, which need a large diversity of plants other than grasses. 'Plateau' is a high quality native perennial forb that flourished in this area of Texas in years past, but is much more limited today.

The search goes on. Other forbs are being actively evaluated for their use in conserving rangeland resources. Good management of the newly released forbs, along with grasses and shrubs will help restore the productivity of many Texas rangelands.

Richard B. Heizer,
plant materials specialist, SCS, Temple, Tex.

New Publications

Landscape and Wildlife Habitat Management in the Countryside

by Richard Westmacott

Farm, landscape, and wildlife management have many principles in common. Published by the Soil Conservation Service, this technical note discusses these shared principles and illustrates how typical landscape and wildlife management objectives are integrated into countryside conservation planning and decisionmaking. The resulting management guidelines are based on concepts and principles that one should be aware of when considering landscape and wildlife values as part of a comprehensive resource management plan. Information included is intended to help SCS field office and other personnel understand and apply these related principles and concepts.

The publication addresses shared management principles, agriculturally productive land, semi-natural areas, water elements, and farmstead elements. It points out that conservation of soil, water, and related resources such as wildlife and landscape elements is significant in maintaining the high productivity and quality of life associated with the countryside.

The intent of the publication is to serve as an introduction to managing wildlife habitat and landscape resources as dual objectives. Although it may not always be possible to plan for both—the two purposes should be considered in any conservation planning effort.

Copies of the publication (Landscape Architecture Note No. 3) are available by writing to Head, Publications Distribution Unit, USDA, Soil Conservation Service, Room 0054-S, P.O. Box 2890, Washington, DC 20013-2890.

Farming and Maintaining Terraces

by the Soil Conservation Service

This brochure, recently published by the Soil Conservation Service, contains the nuts and bolts of farming with and maintaining terraces. It is a "how to" book illustrated with a total of 24 color photos and illustrations.

Terrace systems in combination with other conservation systems, such as conservation tillage, contouring, contour stripcropping, and rotations are described and illustrated. These complete conservation systems are used to help solve soil erosion and other resource problems.

The authors stress that the effectiveness of terraces depends on how they are formed and maintained. The function of terracing is discussed, as is good management of terraces.

The three most common types of terracing are introduced and illustrated: broad-based terraces; grassed back-slope terraces; and narrow-base terraces.

For a copy of this publication (Leaflet Number 570) or for further information contact the local office of the Soil Conservation Service.

Reclaiming Mine Soils and Overburden in the Western United States: Analytic Parameters and Procedures

The purpose of this volume is to conduct a thorough and impartial review of the available scientific knowledge concerning the analytical parameters commonly required for soil and overburden characterization. The book is written to assist on a site-specific basis, keeping in mind the complex interaction of multiple factors.

This volume is designed to be used as a reference for planning and interpreting soil and overburden sampling programs, as a guide for future research (with identified needs), and to assist in the preparation of environmental impact assessments.

The book is available for $25, from the Soil and Water Conservation Society, 7515 N.E. Ankeny Road, Ankeny, IA 50021–9764.

Soil Fertility and Organic Matter as Critical Components of Production Systems

Based on a symposium sponsored by the American Society of Agronomy (ASA), this publication addresses the trend toward greater understanding of the dynamics of organic matter in the soil and its role in soil fertility in recent years, as well as renewed interest via rapidly developing changes in soil management.

The authors point out the timeliness of the document with current farm management emphasis on economic yields and pending environmental legislation, as well as the soil and water conservation provisions of the Food Security Act of 1985.

The focus is the science of managing soils and raising crops with specific and current theories of researchers concerned with soil fertility and organic matter as critical components of production systems.

Specifically, the publication: documents the important role of soil, climate, and management in predicting nutrient availability and use; describes controls on nutrient cycling and organic matter dynamics; and considers approaches to using new technologies and integrating information on organic matter dynamics and nutrient availability into models of crop production systems.

The book is available for $22 from ASA Headquarters Office; Attn: Book Order Department, 677 South Segoe Road, Madison, WI 53711.

Anatomy, Physiology and Psychology of Erosion

by E.G. Hallsworth

The recent publication, *Anatomy, Physiology and Psychology of Erosion*, looks at an old subject from a new angle. The basic premise it purports is that most soil erosion has been caused by damage to the vegetative cover as a result of human activities. The book examines the methods used long ago to keep erosion under control and shows that these traditional methods concur with modern scientific approaches to erosion control. The socio-economic factors that may restrict the adoption of modern techniques are considered. Finally, the psychological reasons for the reluctance to accept modern techniques are considered. The book is based upon the results of a 4-year survey of more than 7,500 small farmers in 10 developing countries. The author concludes by proposing guidelines for decision-makers which might lead to more successful adoption of modern methods in the future.

This book is unique in its examination of both biophysical and socio-economic factors of soil erosion. It is intended as a tool for soil conservationists, agriculturalists, geographers, and agricultural engineers.

The study was sponsored by the International Federation of Institutes of Advanced Study (IFIAS) an international non-governmental association of more than 30 research institutes.

The publication is available for $49.50, from John Wiley & Sons, Inc., One Wiley Drive, Somerset, NJ 08873.

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